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Regional inequality and subjective wellbeing

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Regional inequality and subjective wellbeing

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Abstract

We contribute to the literature investigating the relationship between subjective wellbeing and income inequality by testing the nexus between the two variables using regional inequality indicators and individual data from the cross-country European Social Survey sample. We find evidence for a nonlinear relationship where life satisfaction is higher in correspondence with low to medium levels of inequality, while the effect becomes negative when inequality passes an intermediate threshold. Our findings are robust when estimated in sample splits based on relative income position and individual preferences for inequality and redistribution policies. A likely rationale for our nonlinear finding is that the Hirshmann's tunnel effect (and the positive effect of social mobility) prevails for low levels of inequality, while inequality aversion and negative relative income effects hit when inequality becomes more serious.

Keywords: subjective wellbeing, inequality, nonlinear effect.

JEL Numbers: I30, I31.

1. Introduction

Globalisation, technological change and conditional convergence in economic growth across countries have deeply impacted upon inequality patterns around the world with contrasted effects. On

the one hand, the higher rate of growth of poorer countries vis-à-vis high-income countries (due to the conditional convergence effect) in the last decades has reduced intercountry inequality in terms of comparisons of mean and median per capita income. On the other hand, globalization of product and labor markets, migration of low skilled workers, skill biased technological change and capital deepening have increased competition among low skilled workers coming from rich and poor countries and therefore widened the wage gap between high skilled and low skilled workers within each country, raising wage skill differentials and within country income inequality (Desjonquieres et al., 1999; Haskel, 1999; Burstein and Vogel, 2017; Acemoglu and Autor, 2011). In parallel to this evolution of inequality patterns we are assisting to several examples of social unrest around the world that can be related with a causality nexus to increasing within country inequality, even though the literature finds mixed evidence on this point (Weede, 1981; Muller and Seligson, 1987; Midlarsky 1988; Brockler, 1992; Biswanger, Deininger and Feder, 1993; Collier, Hoeffler and Soderbom, 2004).

The goal of our paper is to investigate this nexus by testing the relationship between individual life satisfaction and regional inequality.

As is well known in the life satisfaction literature, comparison with others can impact subjective wellbeing in two main directions. First, the “relative income” literature shows that individuals compare their achievements with those of their variously determined reference groups and their life satisfaction is significantly affected by this comparison (and negatively so especially when they observe that their income is lower than that of the reference group) (Ferrer-i-Carbonell, 2005; Brown et al. 2013). The literature of behavioral economics finds non dissimilar results by showing that inequity aversion has significant effects on individual choices in lab experiments (Bolton, 1991; Bolton and Ockenfels, 1998 and 2000; Fehr and Schmidt, 1999).

Second, indexes of inequality at local level are expected to affect subjective wellbeing (see the section below for a comprehensive review). The apparent paradox however is that past empirical literature does not display any conclusive evidence about this relationship, evidencing either a negative, either a positive or an absent nexus.

An innovation of our research with respect to past studies is the use of regional level inequality measures in a sample of European countries instead of the country level measures explored in previous research. This deeper level of specificity is an important difference as it implies that closer distance matters when doing comparisons and it avoids underestimating interregional heterogeneity in inequality that levels up at domestic level. Our main finding is that the linear relationship between regional inequality and life satisfaction is not significant, while an inverse U-shaped relationship is

strongly significant and resists all the robustness checks.¹ More specifically, at very low levels of inequality a slightly more unequal income distribution at regional level may improve individual happiness, but after a threshold value in the Gini coefficient, more inequality is detrimental to happiness. We as well find that regional inequality has a stronger impact on life satisfaction than national inequality.

The paper is organized as follows. Section 2 presents a short review of the literature on the channels of transmission from regional inequality to subjective wellbeing. Section 3 illustrates the data, the model specification and the econometric methods. Section 4 discusses and interprets the obtained findings. Section 5 concludes.

2. Literature Review

Although it is often argued that more equal societies lead to higher levels of individual happiness, empirical studies provide mixed findings about sign and magnitude of the effect. The pioneering study by Morawetz (1977) compares two very similar villages in terms of cultural, political and individual characteristics but the level of income equality, finding that the less equal village is populated by less happy individuals. The negative relationship between the two variables is confirmed by Alesina et al. (2004), Schwarze and Härpfer (2007), Wilkinson and Pickett (2009), Oishi et al. (2011). On another hand, Rozer and Kraaykamp (2013), Berg and Veenhoven (2010), show how inequality may enhance individual happiness. This ambiguity acquires even more relevance if compared to the conclusions of Fahey and Smyth (2004), Graham and Felton (2006) and Zagorski et al. (2014), who emphasize the absence of effects of income inequality on life satisfaction.

The complexity of the life satisfaction/inequality nexus and the difficulty to disentangle a clear-cut causality link lie in conflicting subjective and objective motivations affecting the level of inequality regarded as optimal in terms of subjective wellbeing. It is however difficult to identify this optimal level since cultural and individual peculiarities strongly affect both motivations so that inequality can affect life satisfaction through different channels (Ferrer-I-Carbonell, 2014; Panagioti et al., 2017). First, inequality can transmit to happiness through pure self-interest where what matters is the perception of personal benefits or losses from inequality. Second, inequality can reduce life-satisfaction because of social preferences since pessimistic beliefs about the distributive process' fairness can identify inequality as the "social evil" perpetuating multi-dimensional inequality of

¹ Robustness checks consisted in extending the model with additional control variables and regional dummies; grouping the observations by the possible transmission channels, robust standard errors.

opportunity. Third, “within inequality” affects subjective happiness because of the income comparison with other members of own reference group (“income comparison effect”).

Alesina et al. (2004) and Schneider (2012) claim that inequality transmits to happiness through different channels. Less inequality may foster happiness because of a genuine taste for an equal society or because it works as a predictor of future income, in which case the relative position has importance. A high level of inequality can indicate high social mobility, creating the conditions for the so called “tunnel effect” (Hirshmann and Rothschild, 1973). According to it, poor people can counterintuitively support inequality wishing to improve their social position, while rich people can support redistribution to avoid that social unrest may endanger their position. On the other hand, Alesina et al. (2004) stress the importance of heterogeneity of redistributive preferences across cultures, comparing the “taste for inequality” (Thurow, 1971; Ferrer-I-Carbonell, 2014) in Europe and the US and finding that poor and left-wing people in Europe are affected more by income inequality in terms of happiness than in the US where, on the contrary, the rich worry about inequality, while the poor care less about it. This striking evidence remarks the strong cultural differences between the US and Europe if we compare the role of the “American dream” in legitimizing the distributive process with the European skepticism about social mobility and the role of individual effort in determining life outcomes.²

Given the complexity of these conflicting and offsetting effects it is no wonder that the relationship between life satisfaction and income inequality can be postulated to be nonlinear by some authors in the literature. According to Yu and Wang (2017) income inequality and happiness stand in an inverted U-shaped relationship³, where the “signal effect” and “jealousy effect” respectively act in the upward sloping and downward sloping parts of the curve. This mechanism is reported also by Schneider (2012) and Amendola et al. (2015), who emphasize the role of reference groups, individual cognitions, and cultural beliefs, in mediating the dynamics between inequality and happiness. Inequality is decomposed in “between” inequality and “within” inequality, where the former refers to a comparison between own and other reference groups, while the latter refers to a comparison within the own reference group. They find an overall negative effect of inequality, although what really affects individual happiness is the relative position within the same reference group (“within inequality”) rather than the absolute level of income (“between inequality”). This confirms the conclusions of Easterlin (1974) about the role of income in determining happiness, according to which

² Alesina et al. (2001) find that US respondents believe that poor have to be blamed for their condition in a much higher proportion than European respondents. This finding is consistent with the idea that the poor in the US have a less negative opinion about inequality than in Europe.

³ Confirmed in this work, although at a regional level in EU.

it plays a major role only for very low levels of income. In the empirical analysis that follows we start from Yu and Wang (2017) theoretical hypothesis that takes into account the complexity and non-linearity of the relationship and test it empirically at individual level using regional inequality data.

3. Data and descriptive findings

Our data source is the European Social Survey (ESS), which collects cross-sectional data at individual level in 28 European countries, over a time period of 6 waves⁴. Data for our research are available for 98 regions⁵. The dataset is articulated in both socio-demographic and economic variables with the aim to give a representation of the social structure in the analyzed regions. Although individuals are not followed over the time span - such that we cannot set a panel analysis - the ESS dataset suits our study since it allows to study the effect of income inequality over individual life satisfaction in the same region.

Based on these data we develop our econometric model investigating the impact of regional income inequality on individual life satisfaction after controlling for other standard determinants. The dependent variable is the cognitive measure of subjective wellbeing, obtained with the standard cognitive subjective wellbeing question asking individuals about the level of satisfaction about their life⁶. The answers range from 0 (not satisfied at all) to 10 (really satisfied), attaining an average level of 6.9 in the sample (Table 1).

The main explanatory variable we are interested in is regional income inequality. We measure it using the Gini index⁷, in the wake of previous research (Alesina et al., 2004). As is well known the index is contained in the unit range and attains in our sample an average value of 0.25, evidencing a quite low level of income inequality. We cannot use individual income to calculate Gini since the ESS dataset does not contain a continuous income measure but allocates each individual in an income class. Each wave contains 10 categories (deciles), except for the first wave which has 12 categories and is harmonized with the other waves. The income class measure is obviously less informative than individual income, but it avoids most of those measurement errors arising from inaccurate declarations reported by the interviewed subjects. These measurement errors are highly likely to occur given that the income variable is the sum of all monetary inflows and outflows (wages, rents, capital

⁴ Data are available for the following years: 2006, 2008, 2010, 2012, 2014, 2016.

⁵ Using EUROSTAT classification, there are 15 regions NUTS1 and 83 regions NUTS2.

⁶ The asked question is: "How much are you satisfied with your life as a whole? 0 (extremely dissatisfied) to 10 (extremely satisfied).

⁷ To calculate the Gini index, we use sample weights provided by the ESS. More specifically, we use a composite weight using a combination of post-stratification weights (PSPWGHT) – to adjust for sampling error and non-response bias - and population size weights (PWEIGHT) given that we are working with many countries.

gains/losses, interest payments, etc.) occurring in a given time interval that, as such, are difficult to be acknowledged with precision by each individual respondent.

Following Verme (2011), we as well calculate a measure of relative income by computing the ratio between the individual income and the median income in the region, thereby implicitly considering the regional sample population as reference group.⁸ Consistently with the previous literature (Alesina et al., 2004; Verme, 2011), we use standard controls such as education, age, employment status, health status, residence. Inequality aversion, perceived safeness of the living environment, importance to be rich, social capital (membership in association), are other controls we include to take into account the socio-cultural framework in which the respondents live.

Variable legend is in Table 1, while summary statistics are presented in Table 2. The interviewed individuals are on average 48 years old, 37% of them have an upper secondary education level, almost half of them are married or cohabit with a partner and only 9% report a self-assessed bad health status. Almost half of the sample has a job (average of 49%), while the unemployed are 6% of the sample. A third of the sample lives in a big city and only a very small part of it is made by immigrants (nearly 5 people every 100 individuals). The level of social activity is not particularly high since just slightly more than 10 percent of the sample was member of an association in the last 12 months. At the same time, the interviewed subjects seem to be very inequality averse, since more than the 70% of them give their consent to government redistributive policies. Last, only one third of the sample believes that wealth is a core components of life satisfaction, although about 62% believe that success is an important element of life.

4. Econometric findings

As is well known our dependent variable, the life satisfaction categorical ordered variable, would require in principle an ordered logit estimation. However, past empirical studies (Ferrer-I-Carbonell and Ramos, 2014; Flavin et al, 2014; Van Praag and Ferrer-I-Carbonell, 2004) showed that estimating life satisfaction models by means of a linear estimator virtually does not make any difference. In order to test whether this is the case also in our estimate, and whether our main findings are robust to the

⁸ For a reference to the empirical literature testing the relative income hypothesis with different reference groups created by combining geographical location, gender, age cohorts and professional characteristics see, among others, Ferrer-i-Carbonell (2005), Dorn, Fischer, Kirchgassner and Sousa-Poza (2008).

different methodological approaches followed in the literature, we estimate both with OLS and ordered logit the following specification⁹.

:

$$\begin{aligned}
 LifeSat = & \alpha_0 + \alpha_1 IncomeIneq_i + \alpha_2 IncomeIneq2_i + \sum_l \beta_l DIncomeDec_{l,i} + \alpha_3 Age_i \\
 & + \alpha_4 Age_square_i + \alpha_5 Male_i + \sum_j \gamma_j DEducation_{j,i} \\
 & + \sum_m \delta_m DMarital_status_{m,i} + \sum_n \theta_n DHealth_status_{n,i} \\
 & + \sum_w \rho_w DJob_status_{w,i} + \sum_s \varphi_s DYear_s + \sum_z \omega_z DRegion_{z,i} + e_i
 \end{aligned}$$

Our main variable of interest in the right-hand side is regional income inequality. Based on our research hypothesis of the two offsetting effects of income inequality on life satisfaction we assume a non-linear relationship between life satisfaction (*LifeSat*) and our index of regional income inequality calculated respectively in levels and squares (*IncomeIneq* and *IncomeIneq2*). Among controls we include dummies for each income decile to account for the income effect on happiness, while age and age squared are used to control for non-linear effects of ageing on the dependent variable. Other controls include a 0-1 gender dummy variable, and an education categorical variable (see Table 1 legend for details). marital status (*Marital_status*), self-assessed health status (*Health_status*) and job status (*Job_status*) is controlled for with categorical variables for each different level or condition. Unobserved time and local heterogeneity are as well considered by including year and region dummies. The benchmark specification does not include variables, like relative income or inequality aversion, as they are used subsequently to carry out split samples and test the effectiveness of the transmission channels.

Our main findings are shown in Table 3. Column 1 displays results from a first specification where regional income inequality is introduced just in levels (linear relationship) with the coefficient of income inequality being positive but not statistically significant. Income inequality becomes statistically significant when we account for its nonlinearity by adding the square of the regional inequality variable (Table 3, columns 2-7). Our findings therefore do not reject the hypothesis of a nonlinear relationship between life satisfaction and income inequality. More specifically, the relationship is represented by an inverted U-shape with a maximum around 0.27 – equal to the Gini

⁹ However, even using OLOGIT model the results are confirmed. These estimates are not reported in the paper but are available on request.

of Sweden in 2018. This means that at the beginning (for low levels of inequality) the relationship between inequality and subjective wellbeing is positive while, after the turning point it becomes negative. This nexus remains invariant even when we introduce other control variables in the specification that follows (Table 3, column 3-6). The implied change in life satisfaction produced by the variation of the inequality index is shown in Figure 1. In order to have an idea of the magnitude of the effect consider that a move from the peak of the inverse U-shape 0.27 (the Gini of Sweden) to the Gini of the United States in 2016 (0.415) we have a fall of 2 points of the life satisfaction score (from 7.3 to 5.3), that is almost one standard deviation of the life satisfaction distribution.

All controls in our life satisfaction estimate have the expected sign. Male gender is negative and significant as in most of the subjective wellbeing studies.¹⁰ Individuals with higher education and higher income are more satisfied about their lives. Success of relational life contributes positively since separated and divorced are relatively less satisfied than respondents who are married or co-habit with their partner. Unemployment and poorer self-assessed health status are associated with lower life satisfaction. Age has the expected U-shape effect with the less positive association with subjective wellbeing reported by middle age classes where expectations and time pressure hit more. Retired workers are happier, while unemployed workers are less happy than the self-employed omitted benchmark.

In Table 3, column 4, we add the relative income (*RelativeIncome*) calculated at regional level for each wave as control check. In column 5 we estimate the fully augmented specification without regional dummies to verify whether any presence of collinearity between these fixed terms and the other variables affects the results (as postulated by Verme, 2011). The coefficients of income inequality remain significant (confirming the inverse U-shape relationship) even if they are slightly higher. In Table 3, column 6, we provide findings from an estimate with standard errors clustered at regional level. All coefficients remain significant showing that they are invariant to the choice between clustered and robust standard errors.

We re-estimated the model using the ordered logit specification which takes into account the categorical ordered nature of our dependent variable (Table 3, column 7). All our findings are confirmed. With this discrete model we test the difference between income inequality calculated at regional level and that calculated at national level. Given the high level of correlation between the two variables we run a separate estimate using national income inequality – *IncomeIneqCountry* – (Table 3, column 8) and we perform after it an AIC test comparing its goodness of fit with that of the

¹⁰ These studies show the existence of a gender happiness paradox where women are more likely than men to report higher levels of life satisfaction but also more likely to declare they are depressed. A rationale explaining the paradox is that women have higher affect intensity

equivalent model with regional income inequality. Apparently, the coefficients of the (regional and national) variables capturing income inequality are quite similar. The AIC test however shows that the model with regional income inequality performs better.

5. Robustness checks

Our measure of inequality is calculated using personal income, so it is relevant to detect how the estimated nonlinear relationship changes in sample splits based on different income classes. To this purpose, we classify individuals into three categories: low (if they fall into the first 3 classes of income), medium (if they fall into the intermediate 4th, 5th and 6th classes of income) and high income respondents (if they fall into the highest classes of income) as shown in Table 4, columns 1-3. The nonlinear nexus is confirmed for estimates in all of the three subsamples even if, for the high income group the relationship is flatter with the peak more to the left than the others – that is, the turning point occurs at a lower value of the Gini index (see Figure 1.B). These findings are confirmed when we use relative income to split the sample: below median and above median income¹¹ (Table 4, columns 4 and 5). Overall, these sample splits show a stronger relationship between inequality and life satisfaction – the dome shape is sharpened, and the maximum point is at 0.35 for the relative poorer individuals and at 0.27 for the relative richer ones. The difference between the two peak points could mean a higher sensitivity for people with relative higher income giving support to the counterintuitive results provided by Alesina et al. (2004).

In the estimates that follow we analyze the possible channels underlying the nexus between life satisfaction and income inequality. We consider different channels: cultural background, pro-social preferences and personal traits. In order to test the impact of different cultural backgrounds we split the sample into citizens versus immigrants and into individuals living in big cities and those living in town or village (Table 5, columns 1-4). The relationship is stronger for immigrants than for citizens and their turning point (the peak of the dome) occurs at lower Gini levels (0.26 vs 0.30) so they are more sensitive to inequality, presumably because they have reduced access to welfare and protection instruments against it. The peak point of people living in a city and of those living in town or village is the same (0.3) even if the relationship is steeper for the second group. To investigate the role of relational goods (Table 5, columns 5-8), we split the sample into people working or not in voluntary organizations and frequency of social relationship as further delimiter. Our findings show that the peak points are very close for both categories and the nexus between life satisfaction and inequality becomes negative earlier for the individuals working in voluntary associations and for those who do

¹¹ Relative income is calculated at regional level for every wave.

not have many meetings with friends. In the first case we can suppose that the social capital aspect matters (working in a voluntary association also expresses pro social preferences) while in the second case lower social ties reduce informal redistributing mechanisms available to the individual and therefore enhance the perceived negative effects of inequality on subjective wellbeing.

We also test the role of personal preferences and personal attitudes (Table 5, columns 9-16). We split the sample using as delimiters: i) preferences for government intervention to reduce income inequality; ii) preference for equal treatment; iii) importance of being rich; iv) importance of care for the environment. Our findings show that individuals who think that government should reduce inequality show a flatter nexus and a higher peak point with respect to the opposite group. The same counterintuitive pattern is found for respondents who think that people must be treated equally. Respondents who declare that it is important to care for nature show a greater sensitivity for inequality and also a lower turning point. While people who think that it is important to be rich express a lower turning point and a higher sensitivity for inequality. This could be reasonable if a greater inequality means less opportunity. At the end, we investigate the role of egoism (Table 5, columns 17-20). Respondents who are worried to be victim of crime have a higher sensitivity to inequality and a lower turning point (0.29 vs 0.31). A lower turning point is also found for respondents who think that most people try to take advantage from the other human beings as they presumably feel themselves less protected against inequality.

Consider however that all the observed sample split differences in shape and peaks of the inverse U-shaped nexus between regional inequality and subjective wellbeing are small. Hence the main finding of this robustness check remains that the nonlinear (inverse U-shaped) is robust when considering the role of the variables used as subsample delimiters

6. Conclusions

A straightforward way to test whether and in what sense inequality is regarded as being beneficial or harmful by the public opinion is measuring its effect on subjective wellbeing. Our empirical analysis innovates in the related literature by testing whether regional inequality matters in the same way or more than national inequality. We find that the relationship between regional inequality and subjective wellbeing is significant (slightly stronger than that with national inequality), robust and nonlinear: an increase in inequality from its very low levels has a positive effect, while the sign is inverted when inequality passes an intermediate threshold. The result on the importance of regional inequality seems to support the idea that geographical distance matter and comparisons with those who are closer hit more than those who live at longer distance. Sample split results also show that the effect of regional inequality on subjective wellbeing is not the same for everyone as it depends on

income class and political opinions, with the threshold being lower for lower income classes and respondents with more redistributive political opinions.

Our findings have interesting policy implications showing that policymakers may get reasonable information on tastes about inequality of the different groups of the society and, consequently, on the political feasibility/desirability of measures to address inequality. As well, the nonlinearity of the observed effect should suggest policymakers to search for the right balance between reduction of inequalities and reward for performances that necessarily produces variability in earnings.

References

Acemoglu, D., Autor, D. (2010). *Skills, Tasks and Technologies: Implications for Employment and Earnings*. National Bureau of Economic Research, Inc, NBER Working Papers.

Alesina, A., Di Tella, R. and MacCulloch, R. (2004) *Inequality and happiness: Are Europeans and Americans different?* Journal of Public Economics 88: 2009–2042

Amendola A., Dell'Anno R. (2015). *Social Exclusion and economic growth: an empirical investigation in European economies*. Review of Income and Wealth., 61(2), 274-301

Alesina, A. Alberto, Glaeser, E. Edward, and Sacerdote, B. ruce, (2001), “Why Doesn't the United States Have a European-Style Welfare State?”, Brookings Papers on Economic Activity, 32, issue 2, p. 187-278.

Becchetti L., Castriota S., Corrado L., Giachin Ricca E., (2013), *Beyond the Joneses: Inter-country income comparisons and happiness*, Journal of Behavioral and Experimental Economics (formerly The Journal of Socio-Economics), 45, (C), p. 187-195.

Becchetti, L. Savastano, S. (2009). *The Money–Happiness Relationship in Transition Countries: Evidence from Albania*. Transition Studies Review

Berg, M., & Veenhoven, R. (2010). *Income inequality and happiness in 119 nations: in search for an optimum that does not appear to exist*. In B. Greve, (Ed.), Happiness and social policy in Europe (pp. 174–194).

Binswanger, H., Deininger, K., Feder, G. (1995). *Power, distortions, revolt and reform in agricultural land relations*. Handbook of Development Economics, in: Hollis Chenery & T.N. Srinivasan (ed.), Handbook of Development Economics, edition 1, volume 3, chapter 42, pages 2659-2772, Elsevier.

- Binswanger, H., Deininger, K., Feder, G. (1993). *Agricultural Land Relations in the Developing World*. American Journal of Agricultural Economics, 75(5), 1242-1248.
- Bolton, G. (1991). *A Comparative Model of Bargaining: Theory and Evidence*. The American Economic Review, 81(5), 1096-1136
- Bolton, G., Ockenfels, A. (2000). *A Theory of Equity, Reciprocity, and Competition*. The American Economic Review, 90(1), 166-193
- Brockett, C. (1992). *Measuring Political Violence and Land Inequality in Central America*. The American Political Science Review, 86(1), 169-176.
- Brown, S. Gray, D. and Roberts, J. (2015). *The relative income hypothesis: A comparison of methods*. Economics Letters 130: 47-50.
- Burstein, A., Vogel, J. (2017), *International Trade, Technology, and the Skill Premium*, Journal of Political Economy, 125, issue 5, p. 1356 – 1412
- Collier, P., Hoeffler, A., Soderbom, M. (2001). *On the Duration of Civil War*. Journal of Peace Research. 41, (3), p. 253-273.
- Desjonquieres, T., S. Machin and J. Van Reenen (1999) *Another Nail in the Coffin? Or can the Trade Based Explanation of Changing Skill Structures be Resurrected?*. Scandinavian Journal of Economics, 101, 533-554.
- Dorn, D., Fischer, J., Kirchgässner, G. and Sousa-Poza, A. (2008), *Direct democracy and life satisfaction revisited: new evidence for Switzerland*, Journal of Happiness Studies, Vol. 9, No. 2, pp. 227-255.
- Easterlin, R. (1974). *Does Economic Growth Improve the Human Lot? Some Empirical Evidence*. Nations and Households in Economic Growth, Academic Press, Pages 89-125
- Fahey, T., & Smyth, E. (2004). *The link between subjective well-being and objective conditions in European societies*. In W. A. Arts & L. Halman (Eds.), European values studies: European values at the turn of the millennium (Vol. 7, pp. 57-80). Leiden
- Ferrer-i-Carbonell, A. (2005) *Income and well-being: an empirical analysis of the comparison income effect*. Journal of public economics 89.5-6: 997-1019.
- Ferrer-i-Carbonell, A., Ramos, X. (2014). *Inequality and Happiness*. Journal of Economic Surveys, 28 (5), 1016–1027.

- Fehr, E., & Schmidt, K. (1999). *A Theory of Fairness, Competition, and Cooperation*. The Quarterly Journal of Economics, 114(3), 817-868
- Flavin, P., Pacek, A., Radcliff, B. (2014). *Assessing the Impact of the Size and Scope of Government on Human Well-Being*. Social Forces, 92, 1241– 58
- Graham, C., & Felton, A. (2006). *Inequality and happiness: Insights from Latin America*. Journal of Economic Inequality, 4, 107-122
- Grosfeld, I., Senik, C. (2008). *The Emerging Aversion to Inequality: Evidence from Poland 1992–2005*.
- Greene, W. H. (2017). *Econometric Analysis, 8th edition*. Pearson, New York, NY.
- Haskel, J., Slaughter, M. (1999) *Trade, Technology And U.K. Wage Inequality*. Economic Journal. v111(468,Jan), 163-187
- Hirschman, A., Rothschild, M., (1973), *The Changing Tolerance for Income Inequality in the Course of Economic Development With A Mathematical Appendix*, The Quarterly Journal of Economics, 87, issue 4, p. 544-566
- Jiang, S. Lu, M. Sato, H. (2010). *Identity, Inequality, and Happiness: Evidence from Urban China*. Institute of Economic Research, Hitotsubashi University, Global COE Hi-Stat Discussion Paper Series. 40.
- Morawetz, D., Atia, E., Bin-Nun, G., Felous, L., Gariplerden, Y., Harris, E., Soustiel, S., Tombros, G. and Zarfaty, Y. (1977) *Income distribution and self-rated happiness: Some empirical evidence*. The Economic Journal 87: 511–522
- Ngamaba, K.H., Panagioti, M. & Armitage, C.J. *Income inequality and subjective well-being: a systematic review and meta-analysis*. Qual Life Res 27, 577–596
- Oishi, S., Kesebir, S., and Diener, E. (2011). *Income inequality and happiness*. Psychol. Sci. 22, 1095–1100.
- Rozer, J., & Kraaykamp, G. (2013). *Income inequality and subjective well-being: A cross-national study on the conditional effects of individual and national characteristics*. Social Indicators Research, 113(3), 1009–1023
- Schneider, S. (2012). *Income Inequality and its Consequences for Life Satisfaction: What Role do Social Cognitions Play?* Social Indicators Research, Vol. 106, No. 3, pp. 419-438

- Schwarze, J., & Härpfer, M. (2007). *Are people inequality averse, and do they prefer redistribution by the state?* Evidence from German longitudinal data on life satisfaction. *The Journal of Socio-Economics*, 36, 233-249.
- Thurow, L. (1971). *The Income Distribution as a Pure Public Good*, *Quarterly Journal of Economics*, 83, 327-336
- Yu, Z., Wang, F. (2017). *Income Inequality and Happiness: An Inverted U-Shaped Curve*. *Front. Psychol.*
- Wang, T., Dixon, W., Muller, E., Seligson, M. (1993). *Inequality and Political Violence Revisited*. *American Political Science Review*, 87(4), 979-993
- Weede, E. and Tiefenbach, H. (1981), *Three Dependency Explanations of Economic Growth: A Critical Evaluation*. *European Journal of Political Research*, 9: 391-406
- Wilkinson, R., & Pickett, K. (2009). *The spirit level: Why more equal societies almost always do better*. London: Allen Lane.
- Van Praag, B., Ferrer-i-Carbonell, A. (2004) *Happiness Quantified. A Satisfaction Calculus Approach*. Oxford University Press: Oxford, 2004. *Journal of Economic Inequality*. 4. 391-395.
- Van Praag, B. (2010). *Well-being inequality and reference groups: an agenda for new research*. *Journal of Economic Inequality*
- Verme, P. (2011). *Life satisfaction and income inequality*. *Rev. Income Wealth* 57, 111–127
- Zagorski, K., et al. (2014). *Does national income inequality affect individuals' quality of life in Europe?* *Inequality, happiness, finances, and health*. *Social Indicators Research*, 117(3), 1089–1110.

Tables and figures

Table 1 – Variables legend

Variable	Description
life satisfaction	Answer to the question “how much are you satisfied with your life as a whole, 0 (not satisfied) - 10 (very satisfied)?
DEMOGRAPHIC VARIABLES	
Male	Respondent's gender – dummy variable (1-male, 0-female)
Age	Respondent's age

Citizenship	Respondent's citizenship – dummy variable (1-citizen of the country, 0-foreigner)
City	Respondent's domicile – dummy variable (1-city, 0-town, countryside, village, farm)
education	Respondent's education level – categorical variable articulated in 7 categories (below lower secondary, lower secondary, lower tier-upper secondary, upper tier-upper secondary, advanced vocational, lower tertiary, higher tertiary)
marital status	Respondent's marital status – categorical variable articulated in 4 categories (married/civil partnered, separated/divorced, widowed, never married/never civil partnered))
health status	Respondent's health status – categorical variable articulated in 3 categories (good/very good, fair, bad/very bad)
<hr/>	
ECONOMIC VARIABLES	
employment	Respondent's employment status – categorical variable articulated in 4 categories (paid work, unemployed (looking for a job), retired, other job)
Inequality	Gini index, both at region level and country level
income deciles	Respondent's income class
relative income (regional)	Respondent's relative income w.r.t. the median income at regional level
<hr/>	
SOCIAL VARIABLES	
work in associations	Respondent's activity in another association in the last 12 months – dummy variable (1-yes, 0-no)
meet friends	How many times the respondent meets relatives/friends/colleagues in a month – dummy variable (1-more than one, 0-one or never)
<hr/>	
BELIEFS VARIABLES	
worry to be victim of a crime	Respondent's worry to be victim of a violent crime – dummy variable (1-yes, 0-no)
government should reduce inequality	It responds to the question “Do you think the government should reduce differences in income levels?” – dummy variable (1-yes, 0-no)
people must be treated equally	It responds to the question “Do you think people should be treated equally and have equal opportunities?” – dummy variable (1-agree, 0-not agree)
important to be rich	It responds to the question “In your opinion, is it important to be rich, have money, and have expensive things?” – dummy variable (1-yes, 0-no)
important to care for nature	It responds to the question “In your opinion, is it important to care for nature and the environment?” – dummy variable (1-yes, 0-no)
people are mostly egoist	It responds to the question “Do you think that most people try to take advantage of you?” – dummy variable (1-yes, 0-no)

Table 2 – Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
life satisfaction	292925	6.817	2.334	0	10
<hr/>					
DEMOGRAPHIC VARIABLES					
Male	294358	.461	.498	0	1

Age	293459	48.264	18.687	14	123
Citizenship	294368	.957	.202	0	1
Domicile	294557	.335	.472	0	1
<i>Education</i>					
below lower secondary	253340	.107	.310	0	1
lower secondary	253340	.180	.384	0	1
lower tier – upper secondary	253340	.176	.381	0	1
upper tier – upper secondary	253340	.207	.405	0	1
advanced vocational	253340	.117	.322	0	1
lower tertiary	253340	.098	.297	0	1
higher tertiary	253340	.111	.314	0	1
<i>Marital status</i>					
married/civil partnered	287790	.521	.499	0	1
separated/divorced	287790	.098	.298	0	1
Widowed	287790	.098	.297	0	1
never married/never civil partnered	287790	.281	.449	0	1
<i>Self-Assessed Health status</i>					
good/very good health	294557	.640	.479	0	1
fair health	294081	.268	.443	0	1
bad/very bad health	294557	.090	.286	0	1

ECONOMIC VARIABLES

<i>Employment</i>					
paid work	293009	.490	.499	0	1
unemployed (looking for a job)	293009	.060	.238	0	1
Retired	293009	.245	.430	0	1
other job	293009	.203	.402	0	1
<i>Inequality</i>					
gini index (region level)	200617	.273	.059	.042	.436
gini index (country level)	223241	.280	.057	.105	.430
<i>income deciles</i>					
1st income decile	223241	.096	.295	0	1
2nd income decile	223241	.106	.308	0	1
3rd income decile	223241	.110	.313	0	1
4th income decile	223241	.115	.319	0	1
5th income decile	223241	.110	.313	0	1
6th income decile	223241	.103	.304	0	1
7th income decile	223241	.099	.299	0	1
8th income decile	223241	.092	.290	0	1
9th income decile	223241	.086	.281	0	1
10th income decile	223241	.078	.268	0	1
relative income (regional)	223241	1.03	.560	.111	5

SOCIAL VARIABLES

Work association	286798	.138	.345	0	1
meet friends	294557	.795	.403	0	1

BELIEFS VARIABLES

worry to be victim of a crime	294557	.106	.308	0	1
government should reduce inequality	294557	.725	.446	0	1
people must be treated equally	294557	.713	.452	0	1
important to be rich	294557	.340	.473	0	1
important to care for nature	294557	.873	.332	0	1
people try to take advantage of me	294557	.484	.499	0	1

Table 3 – Econometric findings

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					No regional dummies	S.E. cluster regions	Ordered logit	Ordered logit
Income_Ineq	0.038 (0.031)	0.644*** (0.119)	0.674*** (0.120)	0.619*** (0.124)	0.895*** (0.065)	0.674*** (0.221)	0.681*** (0.116)	
Income_Ineq2		-1.196*** (0.236)	-1.255*** (0.231)	-1.199*** (0.233)	-2.614*** (0.113)	-1.255*** (0.473)	-1.242*** (0.223)	
Income_Ineq_Country								0.847*** (0.127)
Income_Ineq_Country2								-1.566*** (0.246)
IncomeDec2	0.442*** (0.048)	0.434*** (0.048)	0.257*** (0.046)	0.239*** (0.047)	0.273*** (0.026)	0.257*** (0.045)	0.190*** (0.040)	0.189*** (0.040)
IncomeDec3	0.683*** (0.047)	0.673*** (0.047)	0.384*** (0.045)	0.350*** (0.049)	0.344*** (0.026)	0.384*** (0.045)	0.304*** (0.040)	0.303*** (0.040)
IncomeDec4	0.858*** (0.047)	0.849*** (0.047)	0.513*** (0.046)	0.463*** (0.054)	0.456*** (0.026)	0.513*** (0.050)	0.426*** (0.040)	0.426*** (0.040)
IncomeDec5	1.026*** (0.046)	1.020*** (0.046)	0.603*** (0.046)	0.540*** (0.057)	0.555*** (0.026)	0.603*** (0.046)	0.497*** (0.040)	0.497*** (0.040)
IncomeDec6	1.190*** (0.046)	1.184*** (0.046)	0.758*** (0.046)	0.682*** (0.062)	0.702*** (0.026)	0.758*** (0.047)	0.644*** (0.040)	0.643*** (0.040)
IncomeDec7	1.302*** (0.046)	1.298*** (0.046)	0.805*** (0.047)	0.716*** (0.067)	0.787*** (0.026)	0.805*** (0.052)	0.677*** (0.041)	0.677*** (0.041)
IncomeDec8	1.439*** (0.045)	1.437*** (0.045)	0.914*** (0.046)	0.812*** (0.073)	0.867*** (0.026)	0.914*** (0.060)	0.774*** (0.041)	0.773*** (0.041)
IncomeDec9	1.594*** (0.046)	1.597*** (0.046)	1.016*** (0.048)	0.904*** (0.077)	1.005*** (0.027)	1.016*** (0.059)	0.906*** (0.042)	0.907*** (0.043)
IncomeDec10	1.814*** (0.046)	1.818*** (0.046)	1.244*** (0.049)	1.120*** (0.083)	1.176*** (0.027)	1.244*** (0.089)	1.116*** (0.044)	1.117*** (0.044)
Relative_Income				0.068* (0.040)				
Age			-0.074*** (0.003)	-0.074*** (0.003)	-0.071*** (0.002)	-0.074*** (0.005)	-0.070*** (0.003)	-0.070*** (0.003)
Age square			0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Male			-0.119*** (0.016)	-0.119*** (0.016)	-0.071*** (0.010)	-0.119*** (0.020)	-0.111*** (0.015)	-0.111*** (0.015)
LowerSecondary			0.045 (0.039)	0.044 (0.039)	0.004 (0.022)	0.045 (0.052)	0.014 (0.035)	0.014 (0.035)

LowerUpperSecondary			0.105***	0.104***	0.080***	0.105*	0.055	0.054
			(0.040)	(0.040)	(0.022)	(0.058)	(0.036)	(0.036)
UpperUpperSecondary			0.118***	0.116***	-0.114***	0.118**	0.040	0.040
			(0.039)	(0.039)	(0.022)	(0.056)	(0.036)	(0.036)
AdvancedVocational			0.126***	0.124***	0.205***	0.126*	0.069*	0.069*
			(0.043)	(0.043)	(0.024)	(0.067)	(0.038)	(0.038)
LowerTertiary			0.229***	0.227***	0.293***	0.229***	0.131***	0.130***
			(0.042)	(0.042)	(0.024)	(0.055)	(0.038)	(0.038)
HigherTertiary			0.262***	0.259***	0.216***	0.262***	0.160***	0.159***
			(0.041)	(0.041)	(0.024)	(0.061)	(0.038)	(0.038)
Separated			-0.468***	-0.469***	-0.452***	-0.468***	-0.399***	-0.399***
			(0.031)	(0.031)	(0.018)	(0.037)	(0.026)	(0.026)
Widowed			-0.334***	-0.335***	-0.504***	-0.334***	-0.325***	-0.326***
			(0.037)	(0.037)	(0.022)	(0.036)	(0.034)	(0.034)
Never married			-0.315***	-0.315***	-0.212***	-0.315***	-0.334***	-0.334***
			(0.024)	(0.024)	(0.014)	(0.026)	(0.021)	(0.021)
Health_status_good			1.969***	1.969***	2.139***	1.969***	1.737***	1.737***
			(0.041)	(0.041)	(0.023)	(0.054)	(0.035)	(0.035)
Health_status_fair			1.167***	1.167***	1.206***	1.167***	0.957***	0.956***
			(0.041)	(0.041)	(0.024)	(0.044)	(0.034)	(0.034)
Job			-0.074***	-0.073***	-0.086***	-0.074**	-0.106***	-0.107***
			(0.025)	(0.025)	(0.015)	(0.033)	(0.022)	(0.022)
Unemployment			-0.980***	-0.979***	-1.026***	-0.980***	-0.864***	-0.864***
			(0.046)	(0.046)	(0.028)	(0.069)	(0.039)	(0.039)
Retired			0.128***	0.128***	-0.013	0.128***	0.089***	0.089***
			(0.034)	(0.034)	(0.021)	(0.030)	(0.030)	(0.030)
Dummy year	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Dummy region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cut off point	No	No	No	No	No	No	Yes	Yes
Constant	6.100***	5.467***	5.857***	5.933***	5.881***	5.857***		
	(0.087)	(0.145)	(0.170)	(0.174)	(0.163)	(0.280)		
AIC test							778370.6	778398.5
Observations	196,856	196,856	169,425	169,425	169,425	169,425	169,425	169,429
R-squared	0.187	0.187	0.274	0.274	0.174	0.274		

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Omitted benchmark: 1st Income decile, primary education, married/civil partner, bad health status, other activity

Table 4 – Income splits

VARIABLES	(1)	(2)	(3)	(4)	(5)
		Income level		Relative income	
	Low	Median	High	Below median	Above median
Income_Ineq	1.014*** (0.261)	0.751*** (0.177)	0.533*** (0.120)	0.675*** (0.172)	0.849*** (0.102)
Income_Ineq2	-1.597*** (0.451)	-1.184*** (0.329)	-0.890*** (0.235)	-0.951*** (0.317)	-1.528*** (0.194)
Dummy Income Decile	Yes	Yes	Yes	Yes	Yes
Age	-0.078*** (0.003)	-0.070*** (0.003)	-0.057*** (0.003)	-0.073*** (0.003)	-0.065*** (0.003)
Age square	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Male	-0.146*** (0.020)	-0.130*** (0.017)	-0.089*** (0.013)	-0.154*** (0.016)	-0.093*** (0.011)
LowerSecondary	-0.011 (0.034)	0.000 (0.036)	-0.049 (0.051)	0.005 (0.029)	-0.051 (0.034)
LowerUpperSecondary	0.030 (0.038)	0.027 (0.038)	0.005 (0.050)	0.042 (0.032)	-0.008 (0.035)
UpperUpperSecondary	0.131*** (0.037)	0.077** (0.037)	0.000 (0.049)	0.120*** (0.031)	0.013 (0.034)
AdvancedVocational	0.146*** (0.043)	0.124*** (0.039)	0.080 (0.050)	0.168*** (0.035)	0.074** (0.035)
LowerTertiary	0.203*** (0.050)	0.151*** (0.040)	0.139*** (0.049)	0.177*** (0.038)	0.145*** (0.034)
HigherTertiary	0.252*** (0.054)	0.226*** (0.041)	0.151*** (0.049)	0.249*** (0.041)	0.163*** (0.034)
Separated	-0.490*** (0.032)	-0.425*** (0.030)	-0.351*** (0.028)	-0.437*** (0.025)	-0.414*** (0.024)
Widowed	-0.344*** (0.031)	-0.314*** (0.037)	-0.436*** (0.052)	-0.293*** (0.026)	-0.405*** (0.037)
Never married	-0.268*** (0.030)	-0.242*** (0.024)	-0.336*** (0.020)	-0.248*** (0.024)	-0.309*** (0.017)
Health_status_good	1.993*** (0.034)	1.812*** (0.040)	1.658*** (0.051)	1.964*** (0.029)	1.699*** (0.037)
Health_status_fair	1.147*** (0.033)	1.064*** (0.041)	0.972*** (0.053)	1.139*** (0.029)	0.997*** (0.038)
Job	-0.061** (0.029)	-0.040 (0.025)	-0.039* (0.022)	-0.055** (0.024)	-0.031 (0.019)

Unemployment	-0.874*** (0.039)	-0.875*** (0.048)	-0.844*** (0.059)	-0.898*** (0.035)	-0.828*** (0.042)
Retired	0.219*** (0.035)	0.175*** (0.034)	0.137*** (0.035)	0.210*** (0.029)	0.137*** (0.028)
Dummy year	Yes	Yes	Yes	Yes	Yes
Dummy region	Yes	Yes	Yes	Yes	Yes
Constant	5.243*** (0.358)	6.413*** (0.231)	6.811*** (0.172)	5.672*** (0.221)	6.430*** (0.677)
Observations	51,605	56,150	63,127	73,099	97,783
R-squared	0.268	0.222	0.207	0.286	0.227

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Omitted benchmark: Primary education, married/civil partner, bad health status, other activity

Table 5 – Preference splits (part 1)

VARIABLES	(1) Citizen		(3) Domicile		(5) Work association		(7) Meeting with friends		(9) Government should reduce inequality	
	No	Yes	City	Town/vill.	No	Yes	Rarely	Several times	Agree	Disag.
Income_Ineq	1.041*** (0.374)	0.808*** (0.088)	0.477*** (0.163)	0.941*** (0.100)	0.698*** (0.095)	1.230*** (0.203)	1.316*** (0.251)	0.739*** (0.091)	0.730*** (0.103)	1.114*** (0.156)
Income_Ineq2	-1.995*** (0.728)	-1.321*** (0.166)	-0.752** (0.306)	-1.567*** (0.190)	-1.149*** (0.180)	-2.167*** (0.385)	-2.324*** (0.458)	-1.203*** (0.172)	-1.179*** (0.193)	-2.040*** (0.302)
IncomeDec2	0.418*** (0.106)	0.256*** (0.026)	0.251*** (0.046)	0.275*** (0.030)	0.271*** (0.027)	0.318*** (0.074)	0.293*** (0.052)	0.240*** (0.028)	0.286*** (0.028)	0.197*** (0.052)
IncomeDec3	0.462*** (0.107)	0.407*** (0.026)	0.426*** (0.045)	0.410*** (0.030)	0.412*** (0.027)	0.477*** (0.070)	0.460*** (0.053)	0.365*** (0.028)	0.434*** (0.028)	0.319*** (0.051)
IncomeDec4	0.625*** (0.110)	0.542*** (0.025)	0.547*** (0.045)	0.552*** (0.030)	0.550*** (0.027)	0.566*** (0.067)	0.615*** (0.053)	0.492*** (0.027)	0.569*** (0.028)	0.457*** (0.050)
IncomeDec5	0.728*** (0.112)	0.630*** (0.025)	0.641*** (0.045)	0.635*** (0.030)	0.648*** (0.027)	0.583*** (0.067)	0.689*** (0.055)	0.581*** (0.027)	0.669*** (0.029)	0.503*** (0.049)
IncomeDec6	0.884*** (0.115)	0.760*** (0.025)	0.773*** (0.045)	0.772*** (0.030)	0.770*** (0.027)	0.737*** (0.066)	0.871*** (0.056)	0.699*** (0.028)	0.792*** (0.029)	0.654*** (0.049)
IncomeDec7	0.934*** (0.115)	0.854*** (0.026)	0.877*** (0.045)	0.857*** (0.030)	0.865*** (0.028)	0.818*** (0.065)	1.002*** (0.059)	0.774*** (0.027)	0.897*** (0.029)	0.700*** (0.048)
IncomeDec8	0.960*** (0.120)	0.947*** (0.026)	0.957*** (0.045)	0.953*** (0.031)	0.960*** (0.028)	0.891*** (0.065)	1.089*** (0.060)	0.867*** (0.028)	0.998*** (0.030)	0.764*** (0.048)
IncomeDec9	1.132*** (0.122)	1.053*** (0.026)	1.116*** (0.045)	1.040*** (0.031)	1.074*** (0.029)	0.991*** (0.065)	1.227*** (0.063)	0.967*** (0.028)	1.091*** (0.031)	0.896*** (0.048)

IncomeDec10	1.317*** (0.125)	1.216*** (0.027)	1.321*** (0.045)	1.181*** (0.032)	1.259*** (0.029)	1.119*** (0.065)	1.511*** (0.066)	1.110*** (0.028)	1.255*** (0.032)	1.052*** (0.048)
Age	-0.081*** (0.010)	-0.072*** (0.002)	-0.079*** (0.003)	-0.069*** (0.002)	-0.072*** (0.002)	-0.059*** (0.004)	-0.056*** (0.005)	-0.068*** (0.002)	-0.077*** (0.002)	-0.054*** (0.003)
Age square	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Male	-0.166*** (0.048)	-0.117*** (0.010)	-0.142*** (0.017)	-0.109*** (0.011)	-0.126*** (0.011)	-0.128*** (0.020)	-0.090*** (0.024)	-0.132*** (0.010)	-0.129*** (0.012)	-0.118*** (0.016)
LowerSecondary	0.057 (0.108)	-0.030 (0.022)	0.041 (0.045)	-0.046* (0.025)	-0.038 (0.024)	0.062 (0.063)	-0.091* (0.048)	-0.005 (0.024)	-0.032 (0.025)	0.043 (0.045)
LowerUpperSecondary	0.162 (0.113)	0.006 (0.023)	0.100** (0.046)	-0.008 (0.026)	0.007 (0.025)	0.030 (0.062)	0.015 (0.052)	0.007 (0.025)	-0.008 (0.026)	0.143*** (0.046)
UpperUpperSecondary	0.096 (0.111)	0.068*** (0.023)	0.151*** (0.043)	0.053** (0.026)	0.054** (0.024)	0.096 (0.061)	0.015 (0.050)	0.070*** (0.025)	0.070*** (0.026)	0.095** (0.045)
AdvancedVocational	0.276** (0.113)	0.108*** (0.024)	0.230*** (0.046)	0.088*** (0.028)	0.105*** (0.026)	0.050 (0.062)	0.053 (0.055)	0.115*** (0.026)	0.108*** (0.027)	0.155*** (0.046)
LowerTertiary	0.076 (0.116)	0.168*** (0.024)	0.296*** (0.045)	0.125*** (0.028)	0.166*** (0.026)	0.057 (0.061)	0.148** (0.060)	0.143*** (0.026)	0.160*** (0.028)	0.180*** (0.046)
HigherTertiary	0.202* (0.107)	0.200*** (0.024)	0.333*** (0.044)	0.158*** (0.028)	0.207*** (0.026)	0.070 (0.061)	0.250*** (0.058)	0.168*** (0.026)	0.201*** (0.028)	0.194*** (0.046)
Separated	-0.477*** (0.083)	-0.437*** (0.018)	-0.386*** (0.029)	-0.455*** (0.021)	-0.448*** (0.019)	-0.367*** (0.037)	-0.520*** (0.041)	-0.442*** (0.019)	-0.454*** (0.020)	-0.394*** (0.031)
Widowed	-0.293** (0.138)	-0.328*** (0.021)	-0.312*** (0.038)	-0.329*** (0.025)	-0.302*** (0.023)	-0.418*** (0.053)	-0.305*** (0.043)	-0.367*** (0.024)	-0.322*** (0.024)	-0.363*** (0.041)
Never married	-0.360*** (0.061)	-0.293*** (0.014)	-0.256*** (0.024)	-0.302*** (0.017)	-0.282*** (0.016)	-0.290*** (0.030)	-0.382*** (0.038)	-0.304*** (0.015)	-0.296*** (0.017)	-0.277*** (0.023)
Health_status_good	1.657*** (0.123)	1.879*** (0.023)	1.888*** (0.041)	1.862*** (0.027)	1.912*** (0.025)	1.619*** (0.064)	1.877*** (0.042)	1.762*** (0.028)	1.897*** (0.026)	1.762*** (0.049)
Health_status_fair	0.873*** (0.124)	1.123*** (0.023)	1.131*** (0.042)	1.104*** (0.027)	1.137*** (0.025)	0.941*** (0.066)	1.105*** (0.040)	1.043*** (0.028)	1.121*** (0.026)	1.067*** (0.051)
Job	0.014 (0.067)	-0.028* (0.015)	-0.033 (0.026)	-0.028 (0.018)	-0.039** (0.016)	-0.002 (0.033)	0.101** (0.040)	-0.038** (0.015)	-0.018 (0.018)	-0.064** (0.026)
Unemployment	-0.571*** (0.099)	-0.910*** (0.028)	-0.891*** (0.047)	-0.881*** (0.033)	-0.899*** (0.029)	-0.910*** (0.077)	-0.759*** (0.064)	-0.897*** (0.029)	-0.875*** (0.031)	-0.885*** (0.054)
Retired	0.125 (0.128)	0.178*** (0.021)	0.201*** (0.038)	0.161*** (0.024)	0.176*** (0.023)	0.183*** (0.045)	0.304*** (0.047)	0.139*** (0.022)	0.179*** (0.024)	0.185*** (0.039)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dummy region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	5.168*** (0.494)	5.757*** (0.118)	5.852*** (0.212)	5.779*** (0.137)	5.736*** (0.128)	5.441*** (0.271)	3.892*** (0.345)	5.976*** (0.122)	5.783*** (0.140)	5.414*** (0.208)
Observations	7,776	163,060	53,093	117,789	137,362	28,126	34,132	136,750	123,278	47,604
R-squared	0.241	0.285	0.282	0.284	0.280	0.216	0.262	0.259	0.279	0.242

Table 5 – Preference splits (part 2)

VARIABLES	(11) People treated equally		(13) Important to be rich		(15) Important to care for environment		(17) Worry of crime		(19) People try to take advantage of me	
	Agree	Disagree	Agree	Disagree	Agree	Disagree	Yes	No	Yes	No
Income_Ineq	0.751*** (0.099)	0.940*** (0.168)	0.637*** (0.169)	0.909*** (0.100)	0.771*** (0.090)	1.065*** (0.273)	1.147*** (0.343)	0.725*** (0.090)	1.008*** (0.153)	0.628*** (0.101)
Income_Ineq2	-1.242*** (0.187)	-1.530*** (0.318)	-1.144*** (0.323)	-1.451*** (0.188)	-1.261*** (0.171)	-1.827*** (0.498)	-1.974*** (0.705)	-1.154*** (0.169)	-1.612*** (0.282)	-1.082*** (0.193)
IncomeDec2	0.261*** (0.029)	0.279*** (0.048)	0.324*** (0.051)	0.241*** (0.029)	0.271*** (0.027)	0.213*** (0.069)	0.578*** (0.091)	0.235*** (0.026)	0.278*** (0.035)	0.195*** (0.034)
IncomeDec3	0.412*** (0.029)	0.404*** (0.047)	0.436*** (0.049)	0.400*** (0.029)	0.424*** (0.027)	0.298*** (0.070)	0.639*** (0.091)	0.390*** (0.026)	0.417*** (0.036)	0.317*** (0.034)
IncomeDec4	0.541*** (0.029)	0.564*** (0.047)	0.634*** (0.048)	0.513*** (0.029)	0.552*** (0.026)	0.494*** (0.069)	0.838*** (0.091)	0.520*** (0.025)	0.561*** (0.036)	0.428*** (0.033)
IncomeDec5	0.630*** (0.029)	0.652*** (0.048)	0.696*** (0.049)	0.609*** (0.029)	0.645*** (0.026)	0.536*** (0.071)	1.009*** (0.092)	0.605*** (0.026)	0.660*** (0.037)	0.498*** (0.033)
IncomeDec6	0.761*** (0.029)	0.790*** (0.048)	0.822*** (0.049)	0.744*** (0.029)	0.782*** (0.027)	0.654*** (0.070)	1.126*** (0.094)	0.736*** (0.026)	0.831*** (0.038)	0.587*** (0.033)
IncomeDec7	0.858*** (0.029)	0.868*** (0.048)	0.924*** (0.048)	0.833*** (0.029)	0.867*** (0.027)	0.786*** (0.071)	1.169*** (0.098)	0.829*** (0.026)	0.923*** (0.038)	0.668*** (0.032)
IncomeDec8	0.962*** (0.029)	0.922*** (0.049)	1.041*** (0.048)	0.911*** (0.030)	0.964*** (0.027)	0.835*** (0.071)	1.289*** (0.099)	0.918*** (0.026)	1.010*** (0.039)	0.754*** (0.033)
IncomeDec9	1.062*** (0.030)	1.068*** (0.050)	1.172*** (0.049)	1.008*** (0.030)	1.072*** (0.027)	0.938*** (0.074)	1.396*** (0.101)	1.025*** (0.026)	1.134*** (0.041)	0.848*** (0.033)
IncomeDec10	1.248*** (0.030)	1.175*** (0.050)	1.352*** (0.049)	1.168*** (0.031)	1.247*** (0.028)	1.067*** (0.073)	1.642*** (0.105)	1.185*** (0.027)	1.341*** (0.043)	0.994*** (0.033)
Age	-0.072*** (0.002)	-0.071*** (0.003)	-0.078*** (0.004)	-0.069*** (0.002)	-0.071*** (0.002)	-0.078*** (0.005)	-0.074*** (0.007)	-0.072*** (0.002)	-0.076*** (0.003)	-0.063*** (0.002)
Age square	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Male	-0.113*** (0.011)	-0.133*** (0.018)	-0.090*** (0.018)	-0.121*** (0.011)	-0.120*** (0.010)	-0.092*** (0.029)	-0.192*** (0.041)	-0.129*** (0.010)	-0.094*** (0.016)	-0.111*** (0.011)
LowerSecondary	-0.026 (0.026)	-0.007 (0.043)	-0.007 (0.045)	-0.027 (0.025)	-0.038 (0.023)	0.055 (0.065)	0.034 (0.074)	-0.037 (0.023)	-0.061* (0.032)	-0.010 (0.029)
LowerUpperSecondary	-0.016 (0.027)	0.107** (0.044)	0.032 (0.047)	0.016 (0.026)	-0.013 (0.024)	0.178*** (0.069)	0.100 (0.080)	0.000 (0.024)	-0.024 (0.035)	0.017 (0.029)
UpperUpperSecondary	0.049* (0.026)	0.131*** (0.043)	0.103*** (0.045)	0.067*** (0.026)	0.039* (0.024)	0.235*** (0.067)	0.156** (0.075)	0.055** (0.023)	0.046 (0.033)	0.017 (0.029)
AdvancedVocational	0.095*** (0.027)	0.181*** (0.046)	0.130*** (0.049)	0.125*** (0.027)	0.081*** (0.025)	0.318*** (0.073)	0.124 (0.090)	0.104*** (0.024)	0.031 (0.038)	0.086*** (0.029)

LowerTertiary	0.130*** (0.027)	0.270*** (0.047)	0.260*** (0.048)	0.130*** (0.027)	0.136*** (0.025)	0.310*** (0.074)	0.341*** (0.089)	0.141*** (0.024)	0.152*** (0.039)	0.056* (0.029)
HigherTertiary	0.164*** (0.027)	0.291*** (0.047)	0.270*** (0.048)	0.182*** (0.027)	0.163*** (0.025)	0.380*** (0.076)	0.365*** (0.089)	0.177*** (0.024)	0.224*** (0.039)	0.068** (0.029)
Separated	-0.458*** (0.020)	-0.379*** (0.032)	-0.477*** (0.033)	-0.428*** (0.020)	-0.439*** (0.018)	-0.416*** (0.055)	-0.651*** (0.069)	-0.420*** (0.018)	-0.529*** (0.027)	-0.326*** (0.021)
Widowed	-0.348*** (0.025)	-0.276*** (0.039)	-0.296*** (0.045)	-0.330*** (0.023)	-0.336*** (0.022)	-0.256*** (0.068)	-0.257*** (0.076)	-0.333*** (0.022)	-0.321*** (0.032)	-0.346*** (0.026)
Never married	-0.303*** (0.016)	-0.250*** (0.027)	-0.298*** (0.026)	-0.294*** (0.016)	-0.290*** (0.015)	-0.279*** (0.042)	-0.327*** (0.058)	-0.288*** (0.014)	-0.342*** (0.023)	-0.262*** (0.016)
Health_status_good	1.879*** (0.027)	1.853*** (0.043)	1.713*** (0.046)	1.913*** (0.026)	1.855*** (0.024)	1.962*** (0.066)	1.798*** (0.073)	1.852*** (0.024)	1.882*** (0.031)	1.675*** (0.033)
Health_status_fair	1.109*** (0.027)	1.123*** (0.043)	0.944*** (0.047)	1.161*** (0.026)	1.096*** (0.024)	1.200*** (0.066)	1.117*** (0.071)	1.095*** (0.024)	1.131*** (0.031)	0.988*** (0.033)
Job	-0.024 (0.017)	-0.036 (0.029)	-0.078*** (0.027)	0.001 (0.017)	-0.022 (0.015)	-0.052 (0.043)	-0.138** (0.054)	-0.017 (0.015)	-0.014 (0.024)	-0.027 (0.017)
Unemployment	-0.874*** (0.031)	-0.922*** (0.052)	-0.947*** (0.047)	-0.855*** (0.033)	-0.871*** (0.029)	-0.941*** (0.073)	-0.816*** (0.090)	-0.888*** (0.028)	-0.833*** (0.038)	-0.857*** (0.037)
Retired	0.182*** (0.024)	0.151*** (0.040)	0.145*** (0.044)	0.193*** (0.023)	0.160*** (0.021)	0.314*** (0.069)	0.196** (0.076)	0.174*** (0.021)	0.242*** (0.032)	0.124*** (0.025)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dummy region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	5.838*** (0.134)	5.395*** (0.222)	5.947*** (0.226)	5.619*** (0.135)	5.785*** (0.122)	5.363*** (0.360)	4.601*** (0.460)	5.940*** (0.120)	5.262*** (0.207)	6.366*** (0.135)
Observations	126,249	44,633	50,488	120,394	151,959	18,923	13,243	157,639	76,045	94,837
R-squared	0.273	0.303	0.257	0.293	0.277	0.317	0.291	0.275	0.246	0.245

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Omitted benchmark: 1st Income decile, primary education, married/civil partner, bad health status, other activity

Figure 1.A

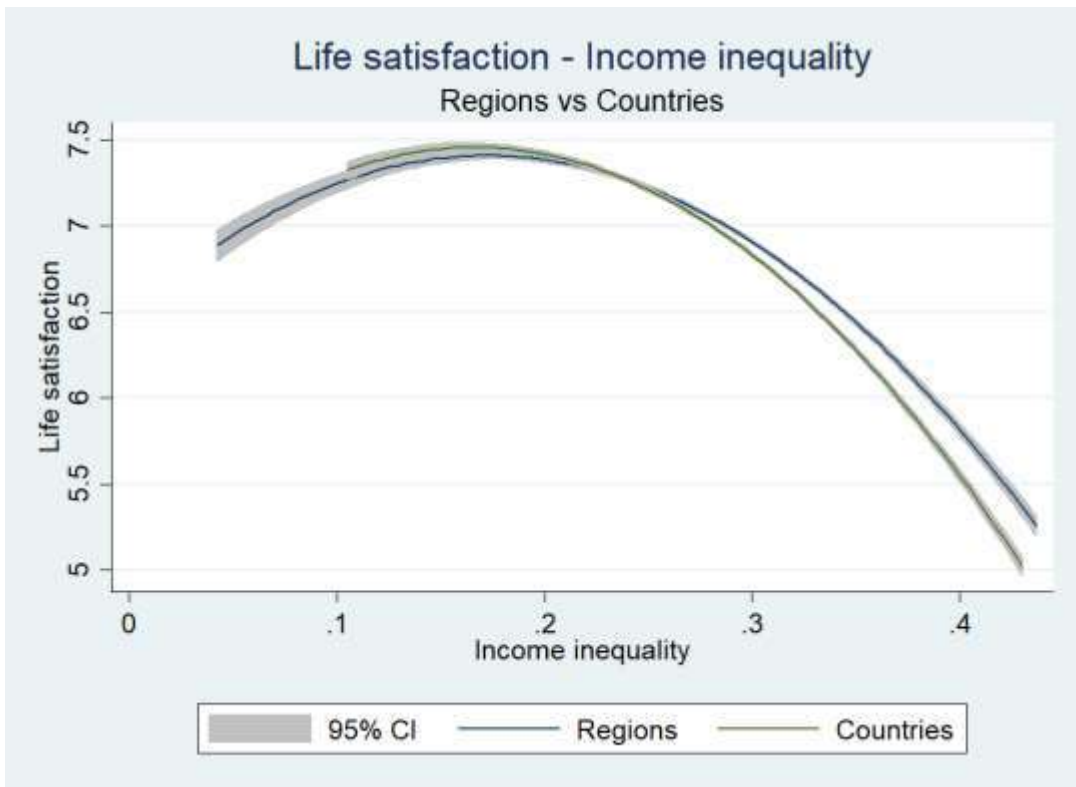


Figure 1.B



